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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,997	08/01/2006	Andreas Eipper	12810-00334-US1	4348
30678 7590 08/06/2009 CONNOLLY BOVE LODGE & HUTZ LLP 1875 EYE STREET, N.W. SUITE 1100 WASHINGTON, DC 20006				
EXAMINER				
LEE, DORIS L				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
08/06/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/587,997

**Applicant(s)**

EIPPER ET AL.

**Examiner**

Doris L. Lee

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 April 1009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The new grounds of rejection set forth below are necessitated by applicant's amendment filed on April 13, 2009. In particular, claim 1 which has been amended to include new limitations on component B). Also, claims 11-14 are new and not previously presented. This combination of limitations was not present in the original claims. Thus, the following action is properly made final.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

### ***Claim Objections***

3. **Claims 11 and 12** are objected to because of the following informalities: there is no B2) component in claim 1, therefore it lacks antecedent basis. The examiner interprets B2) as the B) component. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

4. **Claims 1-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gareiss et al (US 6,084,012)** in view of **Davis et al (GB 2 324 797)**

**Regarding claims 1 and 11-12**, Gareiss teaches a thermoplastic composition (Abstract) comprising:

- A) 5 to 99 % by weight of at least one thermoplastic polyester (Abstract)
- C) 0 to 70 % by weight of other additives and processing aids.

However, Gareiss fails to teach the addition of

B) from 0.01 to 50% by weight of a mixture a highly branched or hyperbranched polycarbonate with an OH number of from 1 to 600 mg, further from 10 to 550 and further from 50 to 550 KOH/g of polycarbonate (to DIN 53240, part 2), or

Davis teaches generally, hyperbranched polymers, one of which can be hyperbranched polycarbonate (Abstract) with both structural and molecular non-uniformity (Page 1, lines 15-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the hyperbranched polycarbonate of Davis to the composition of Gareiss. One would have been motivated to do so in order to receive the expected benefit of controlling the processability of the thermoplastic polyester by behaving like a reactive plasticizer (Davis, page 16, last paragraph). They are combinable because they are concerned with the same field of endeavor, namely additives of thermoplastics. Absent objective evidence to the contrary and based upon the teachings of the prior art, there would have been a reasonable expectation of success.

As to the amount of the hyperbranched polymers and the OH number of the polycarbonate, it is the examiner's position that the amounts are result effective variables because changing them will clearly affect the type of product obtained. See MPEP § 2144.05 (B). Case law holds that "discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

In view of this, it would have been obvious to one of ordinary skill in the art to utilize appropriate amounts of hyperbranched polyester or highly branched

polycarbonate to achieve the desired processability of the flame retarded thermoplastic, including those within the scope of the present claims, so as to produce desired end results.

**Regarding claim 2**, modified Gareiss teaches that the molecular weight of the hyperbranched polycarbonate is 5,000 (Davis, page 20, Example 5).

**Regarding claims 3-4**, modified Gareiss fails to explicitly teach the glass transition temperature and the viscosity of the hyperbranched polyester, however, it does disclose a hyperbranched polycarbonate that meets the claimed limitations, it is therefore inherent that the hyperbranched polycarbonate of modified Gareiss has such properties as presently claimed since such a property is evidently dependent upon the nature of the composition used. Case law holds that a material and its properties are inseparable. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

**Regarding claims 5-8**, as these are product-by-process claims, patentability of said claim is based on the recited product and does not depend on its method of production. Since the product claimed is the same as product disclosed by Davis the claim is unpatentable even though the Davis product was made by a different process. In re Marosi, 710 F2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). See MPEP 2113.

**Regarding claims 9 and 10**, modified Gareiss teaches that a fiber, foil, or molding can be made (Gareiss, col. 13, lines 1-10) via conventional apparatus to form shaped articles (Gareiss, col. 13, lines 1-10).

**Regarding claims 13-14**, modified Gareiss teaches that hyperbranched polymers are made (Davis, page 1, first paragraph) and further teaches that only when

the degree of branching is greater than 40%, is a dendritic polymer considered to be a hyperbranched polymer (Davis, page 2, lines 13-18).

It is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

### ***Double Patenting***

#### **Double Patenting 1**

5. **Claims 1-10** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **1 and 12-13** of copending **Application No. 10/587,998** in view of **Davis (GB 2,324,797)**.

The rejection is adequately set forth in paragraph 4 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

#### **Double Patenting 2**

6. **Claims 1-10** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-10 and 13-21** of copending **Application No. 11/576,646**.

The rejection is adequately set forth in paragraph 5 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

7. **Claims 1-10** are directed to an invention not patentably distinct from **claims 1-10 and 13-21** of commonly assigned **Application No. 11/576,646**.

The rejection is adequately set forth in paragraph 6 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

**Double Patenting 3**

8. **Claims 1-10** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-10 and 15-21** of copending **Application No. 11/577,009**.

The rejection is adequately set forth in paragraph 7 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

9. **Claims 1-10** are directed to an invention not patentably distinct from **claims 1-10 and 15-21** of commonly assigned **Application No. 11/577,009**.

The rejection is adequately set forth in paragraph 8 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

**Double Patenting 4**

10. **Claims 1-10** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-20** of copending **Application No. 11/577,587**.

The rejection is adequately set forth in paragraph 9 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

11. **Claims 1-10** are directed to an invention not patentably distinct from **claims 1-20** of commonly assigned **Application No. 11/577,587**.

The rejection is adequately set forth in paragraph 10 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

**Double Patenting 5**

12. **Claims 1-10** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-21** of copending **Application No. 11/577,590**.

The rejection is adequately set forth in paragraph 11 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

13. **Claims 1-10** are directed to an invention not patentably distinct from **claims 1-21** of commonly assigned **Application No. 11/577,590**.

The rejection is adequately set forth in paragraph 12 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

**Double Patenting 6**

14. **Claims 1-10** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **1-20** of copending **Application No. 11/632,711**.

The rejection is adequately set forth in paragraph 13 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

15. **Claims 1-10** are directed to an invention not patentably distinct from claim **claims 1-20** of commonly assigned **Application No. 11/623,711**.

The rejection is adequately set forth in paragraph 14 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

**Double Patenting 7**

16. **Claims 1-10** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-20** of copending **Application No. 11/659,506**.

The rejection is adequately set forth in paragraph 15 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

17. **Claims 1-10** are directed to an invention not patentably distinct from **claims 1-20** of commonly assigned **Application No. 11/659,506**.

The rejection is adequately set forth in paragraph 16 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

**Double Patenting 8**

18. **Claims 1-10** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-13** of copending **Application No. 11/659,625**.

The rejection is adequately set forth in paragraph 17 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

19. **Claims 1-10** are directed to an invention not patentably distinct from **claims 1-13** of commonly assigned **Application No. 11/659,625**.

The rejection is adequately set forth in paragraph 18 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

**Double Patenting 9**

20. **Claims 1-10** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 14-25** of copending **Application No. 11/813,638**.

The rejection is adequately set forth in paragraph 19 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

21. **Claims 1-10** are directed to an invention not patentably distinct from **claims 14-25** of commonly assigned **Application No. 11/813,638**.

The rejection is adequately set forth in paragraph 20 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

**Double Patenting 10**

22. **Claims 1-10** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 14-25** of copending **Application No. 11/813,833**.

The rejection is adequately set forth in paragraph 21 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

23. **Claims 1-10** are directed to an invention not patentably distinct from **claims 14-25** of commonly assigned **Application No. 11/813,833**.

The rejection is adequately set forth in paragraph 22 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

**Double Patenting 11**

24. **Claims 1-10** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-20** of copending **Application No. 11/996,489**.

The rejection is adequately set forth in paragraph 23 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

25. **Claims 1-10** are directed to an invention not patentably distinct from **claims 1-20** of commonly assigned **Application No. 11/996,489**.

The rejection is adequately set forth in paragraph 24 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

**Double Patenting 12**

26. **Claims 1-10** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-20** of copending **Application No. 11/815,238**.

The rejection is adequately set forth in paragraph 25 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

27. **Claims 1-10** are directed to an invention not patentably distinct from **claims 1-20** of commonly assigned **Application No. 11/815,238**.

The rejection is adequately set forth in paragraph 26 of the Office Action mailed on January 12, 2009 and is incorporated here by reference.

***Response to Arguments***

28. Applicant has requested that the provisional nonstatutory obviousness-type double patenting rejections to be held in abeyance until allowable subject matter is

indicated. The double patenting rejections set forth in the previous office action can not be suspended or dismissed without persuasive arguments and therefore have been maintained in this office action and set forth above.

29. Applicant's arguments filed April 13, 2009 have been fully considered but they are not persuasive for the reasons set forth below:

30. **Applicant's argument:** Gareiss and Davis, alone or in combination, do not describe or suggest the claimed combination of the thermoplastic polyester and highly branched or hyperbranched polycarbonate as presently amended.

**Examiner's response:** *The above rejections address the newly amended limitations.*

31. **Applicant's argument:** The Office has not demonstrated that there would be any apparent reason to modify the references or provide a reason that one skilled in the art would have been lead to combine the references. Gareiss does not describe or suggest modification of the reference with a highly branched or hyperbranched polycarbonate.

**Examiner's response:** *Gareiss teaches that the thermoplastic molding composition is open to the addition of various additives (Abstract) and Davis teaches that the additive can be the hyperbranched polymer. Applicant's argument that Gareiss does not suggest the hyperbranched polymer is not persuasive because in a 103(a) rejection one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).*

32. **Applicant's argument:** The hyperbranched polycarbonates of Davis are entirely different from and clearly unobvious over the claimed invention. Applicant asserts that Davis uses a complex synthetic route which is quite different than the synthetic route used in the present composition.

**Examiner's response:** *Although Davis uses a different, more complex and more costly synthetic route than that of the presently claimed invention, it is the examiner's position that the end products of the hyperbranched polymer of Davis and that of the presently claimed invention are identical in structure. As the claims of the present invention are compositional claims, patentability of said claim is based on the recited product and does not depend on its method of production. Since the product claimed is the same as product disclosed by Davis the claim is unpatentable even though the Davis product was made by a different process. In re Marosi, 710 F2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). See MPEP 2113.*

33. **Applicant's argument:** The data in the present invention shows unexpected results in flowability when the hyperbranched polymer is added to the composition.

**Examiner's response:** *In order to show unexpected results, the data must be commensurate in scope with the claimed invention. It is noted that the data shown in Tables 1-5 of the specification does not provide enough data to show unexpected results over the whole claimed range. For example, the amount of the hyperbranched polymer (component B) in the examples are quite low, mostly below 5%; however, the claimed range for component B ranges from 0.01 to 50% by weight. The same can also be said for the amount of thermoplastic polyester, which, as claimed, be present in*

*the inventive composition in an amount as low as 10% by weight, however, there is no data which shows the flowability performance at such a low polyester loading.*

*Therefore, unexpected results cannot be determined for the entire scope of the claimed invention.*

### **Conclusion**

34. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Doris L. Lee whose telephone number is (571)270-3872. The examiner can normally be reached on Monday - Thursday 7:30 am to 5 pm and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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